# REPORT OF MICHAEL ARNALL, M.D.

My name is Michael Arnall, and I am a medical doctor concentrating in the field of forensic pathology. My curriculum vitae is attached to this report.

I have received from the office of legal counsel for Mrs. Goode the following: 1) Photo of Troy Good with his son; 2) Amended complaint; 3) Police report; 4) EMS report; 5) Baptist medical records; 6) Video at the scene of arrest; 7) Video of ambulance unloading Mr. Goode at the hospital; 8) USA Today article; 9) Mississippi State autopsy report signed by Erin Barnhart, M. D.; 10) Autopsy report of Cyril Wecht, M.D.; 11) Report and curriculum vitae of Parin Parikh, M.D.;

12) Report and curriculum vitae of David E. Nichols, Ph.D.;

13) Deposition of Nurse Jeff Baker;



- 14) 42 CFR 482.13;
- 15) Coroner's report;
- 16) Deposition of Sergeant Matthew Tyler Price; and
- 17) Deposition of an independent witness, Janet Tharpe.

In addition to the furnished materials, I rely upon my education and experience of a forensic pathologist in stating my opinion as to the cause of death of Troy Goode.

My understanding of the facts of this incident are as follows:

## **FACTUAL PREDICATE**

On July 18, 2015, Troy Goode and his wife, Kelli, travelled from their home in Cordova, TN to the Snowden Grove music venue in Southaven, MS for a Widespread Panic concert. The Goodes parked under a tree in the parking lot of the venue. They were joined by four or five of Mr. Goode's friends. The males including Mr. Goode placed some amount of LSD onto their palms.

After ingesting the LSD, Mr. Goode became paranoid and claustrophobic. The thought of attending the concert was abandoned, and Mrs. Goode got her husband in the passenger seat of their car so she could drive him home.

Mrs. Goode was driving along Goodman Rd. in Southaven when Mr. Goode said that he could not stand the confines of the automobile. Mrs. Goode pulled into a parking lot in front of a small shopping center after Mr. Goode exited the vehicle.

Mr. Goode began walking about in a grassy area in front of the shopping strip. His actions appeared erratic and without purpose. He could be described as running in circles. A

witness in one of the businesses in the strip shopping center saw what was going on and the witness contacted the Southaven Police Department.

Multiple officers arrived on the scene.

Mr. Goode was taken to the ground by a K9 dog. Serious bite wounds were inflicted on Mr. Goode's arm.

Mr. Goode was also hit by a Taser dart fired by an Officer.

Officers applied pressure into Mr. Goode's back, pulled his arms behind him, handcuffing him. His feet were then bent up and shackled to his hands, a position commonly referred to as "hog-tie." He was face-down on the ground. Mr. Goode was struggling to roll onto his side but was held down in a prone position by officers.

Subsequently an ambulance with emergency medical personnel had arrived. A gurney was taken from the ambulance and lowered to the ground. Police officers picked up Mr. Goode by the shackles and placed him face down on the gurney. Five straps were then used to secure Mr. Goode to the gurney. He was loaded into the ambulance

Responding personnel were told that Mr. Goode was asthmatic and carried an inhaler in his pocket.

The ambulance in non-emergent manner leisurely transferred Mr. Goode to Baptist Memorial Hospital-Desoto. Mr. Goode was transported in the ambulance still hogtied and prone.

During the transport, at 8:20 p.m., an EMT recorded supraventricular tachycardia with a pulse rate of 164. Five minutes later, she again recorded SVT, heart rate of 186 I believe. Within that five minutes, Mr. Goode's diastolic blood pressure dropped 30 points to around 61.

Also during the ambulance transport, the EMT placed an IV in Mr. Goode's left arm. Apparently the EMT had a chemical restraint available in the ambulance. She did not resort to its use in spite of the claim that Mr. Goode was uncontrollable.

At 8:33 p.m., Mr. Goode was triaged at Baptist. His temperature was taken orally and recorded at 98.2 degrees Fahrenheit. His pulse was recorded at 164, and the software apparently registered a warning next to the reading. Respiration was recorded at 24. Blood pressure was recorded at 122/64 mmHg. SpO2 registered 90%, and again, the hospital software apparently recorded a warning alert next to the oxygen reading.

After triage was completed, he was assigned an acuity level of 2 on the ESI index. He was transported, still hogtied and prone, to a room in the Emergency Department. Janet Tharpe was an independent witness in the ED. Mr. Goode was wheeled past her within several feet. She described Mr. Goode's face as "swelled-up and just red. His eyes were bulged out. It was horrifying." Ms. Tharpe further testified that Mr. Goode was totally incapable of movement because of the hogtie. No cardiac monitor or supplemental oxygen was used. I am not aware that oxygen saturation was measured in the treatment room.

I am not aware that vital signs were measured subsequent to transfer to the treatment room in the Emergency Department. At approximately 9:00 p.m., the emergency physician came into the room but performed no examination whatsoever. It is my understanding that the physician gave the excuse for omitting a physical examination that the patient was unruly. This is in sharp contrast to the description of the patient given by the witness Ms. Tharpe. Mr. Goode remained hogtied and prone. The doctor ordered tests including alcohol blood, drug screen urine panel, urinalysis auto microscopic, comprehensive metabolic panel, CBC with differential but no arterial blood gas. I have not seen the test results. It appears

that the test results were never obtained.

The patient had an intravenous catheter in place. There is no explanation given for the failure to obtain results for the tests ordered by the physician.

The doctor also ordered Haldol 5 mg and Ativan 2 mg. Those medications were injected IV by a nurse at 9:08 p.m. Within 14 minutes, the patient had no respirations. After injecting the Haldol and Ativan, the nurse left the room leaving only a police officer with Mr. Goode. There was no medical supervision before the code was called.

At 9:22 p.m., the police officer notified medical personnel that Mr. Goode had stopped breathing. It was only upon arrival in the room of medical personnel after Mr. Goode stopped breathing that the hog-tie was released and Mr. Goode turned off of his stomach. A code was called at that time. Bedside Glucose was measured at 95 mg/dL. The resuscitation was unsuccessful, and the doctor pronounced death at 9:44 p.m. The emergency doctor signed a state of Mississippi Death Certificate listing as the preliminary cause of death as "cardio pulmonary arrest." Months after the autopsy was done in Jackson, MS. the assistant medical examiner, by then relocated to South Texas, signed the report which listed the cause of death as complications of LSD.

Post mortem toxicology was performed twice. The toxicology report from NMS Labs found LSD in the amount of 1.0 mg/mL in Mr. Goode's subclavian blood. There was no evidence of any of the so-called "designer" drugs considered to be highly dangerous.

# THE EFFECTS OF POLICE RESTRAINTS AND POSITION

My professional opinion is that the hogtie in a prone position for an extended period of time was a substantial contributing cause to the death of Mr. Goode. In this case the hogtie restraint lasted 1.5 to 2 hours. A person who is handcuffed and hogtied plus being restrained

prone has trouble breathing. The fact that Mr. Goode was asthmatic was an exacerbating factor to the hogtie in a prone position. Likewise, the excited state precipitated by ingestion of LSD increased his susceptibility to the cardiac arrhythmia which was demonstrated by the EMS ECG.

Regarding the respiration component of the death, it is long been known that positional or restraint asphyxia can occur when a person is hogtied in a prone position. The victim is unable to reposition himself in order to breathe. The asphyxia can be caused by facial compression, neck compression, or chest compression. Passive deaths following custody restraint which are presumed to be positional asphyxia may actually be asphyxia occurring during the restraint process. Testimony in the case appears to have established that officers applied weight to Mr. Goode's back during restraint. An officer admitted that he restrained Mr. Goode so that he could not roll over onto his side, a move which obviously demonstrates an effort to get increased oxygen. It is of import that officers at the time of arrest applied pressure to Mr. Goode to keep Mr. Goode from rolling on his side. The fact that Mr. Goode experienced a restricted ability to breathe is corroborated by the pulse oximeter reading taken during triage and the testimony of Janet Tharpe, an independent witness, who described in detail Mr. Goode's distress while being wheeled down the hall of the Emergency Department.

Likewise, the National Institute of Health has concluded that persons restrained face down with application of body weight on the upper torso and/or in a flex restraint position showed a significant reduction in lung function.

### THE BAPTIST MEDICAL RECORDS

The medical records indicate that Mr. Goode was screaming uncontrollably and actively hallucinating. The record documents that Mr. Goode was combative and agitated. Haldol and

Ativan, which are chemical restraints, were administered intravenously. The attending physician ordered a comprehensive metabolic panel, although there is no record of results of this test.

During the attempted resuscitation of Mr. Goode, the physician ordered the administration of sodium bicarbonate. Sodium bicarbonate is used to reverse the condition called acidosis.

Acidosis may be due to metabolic causes such as vigorous exercise or respiratory causes such as decreased or compromised respiratory efforts. Mr. Goode experienced both causes of acidosis. He was predictably straining against the prone hogtic restraint as anyone would, a version of isometric weight lifting. The evidence that he was straining against the shackles is shown by the contusions on his wrist and ankles. Mr. Goode was subject to metabolic acidosis and at the same time to involuntarily compromised respiratory effort caused by the prone hogtic restraint. In medical terms, he was subject to respiratory acidosis as well.

Thy hyperventilation associated with yelling and screaming due to the agitated state was a substantial benefit in keeping Mr. Goode alive as it kept him in a compensated condition between the metabolic and respiratory acidosis induced by the prone hogtic restraint and the respiratory alkalosis induced by hyperventilation due to the effects of LSD. Strictly speaking, the effects of LSD and hyperventilation were substantially benefiting Mr. Goode's physiologic attempt to compensate for the restraint-induced metabolic and respiratory acidosis.

When the physician ordered and the nurse administered the chemical restraints, the compensatory respiratory alkalosis was suppressed by the Haldol and Ativan. Mr. Goode should have been closely monitored after the administration of the chemical restraints in order to detect respiratory and cardiac status changes in a timely fashion. Medical personnel failed to monitor Mr. Goode's respiratory and cardiac status so that when his breathing stopped, irreversible damage was caused before the resuscitation began.

### **OPINIONS**

Many individuals hogtied and prone show a significant reduction in lung function. (www.ncbi.nlm.nih.gov/pubmed/18533573)

Any person who is restrained prone has trouble breathing when hogtied, and the natural reaction is to panic, struggle, sometimes more violently, which can result in greater oxygen deficiency (as evidenced here) and in some cases death (also evidenced here).(www.ncbi.nlm.nih.gov/pmc/articles/PMC1112961/{Acute Excited States And Sudden Death, Death After Restraint Can Be Avoided})

Mr. Goode was at high risk from being hogtied and in a prone position due to his asthmatic condition.

Mr. Goode suffered respiratory compromise and cardiac arrhythmias, caused by hogtie restraint, which were substantially contributory to his death.

A struggling, agitated individual breaths faster, has a faster heartbeat, elevated blood pressure and heightened metabolism. Such an individual requires more air and more oxygen. The struggling individual experiences the propensity for metabolic acidosis experienced by all vigorously exercising individuals. The body naturally responds by increased respiration that causes a compensatory respiratory alkalosis. Immobilization of the chest, even if only partially reducing the ability to maintain vital functions such as breathing, predictably exacerbates the risk of cardiac arrhythmia.( <a href="http://www.corrections.com/news/article/6887">http://www.corrections.com/news/article/6887</a> Reducing the Risk Associated with Use of Restraints

The use of prone restraint predictably exacerbates the risk of sudden death and many deaths have occurred in individuals, who while in police custody had been restrained in this position. The death of Troy Goode from a forensic pathology standpoint should be classified as a homicide. His death cannot be classified as a case of natural death or accident. (Medicolegal Investigation of Death, fourth edition, edited by Werner Spitz) and (DiMaio and DiMaio's Forensic Pathology, second edition) and (A Guide for Manner of Death Classification', published by the National Association of Medical Examiners (NAME) 2002) and (Excited Delirium Syndrome, DiMaio and DiMaio, 2006) and (Sudden Deaths in Custody, Ross and Chan

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editors, 2006) and (Handbook of Forensic Pathology, 2003, published by the College of

American Pathologists)

Based upon a reasonable degree of medical certainty, Mr. Goode's death was caused by

the manner of restraint and positioning (precipitating asphyxia) and the subsequent intravenous

administration of chemical restraints which exacerbated asphyxia and ultimately precipitated

cardio-pulmonary arrest.

My charge for medico-legal consulting is \$150.00 per hour.

Electronically signed by Michael Arnall, M.D.

Michael Arnall, M.D.

Date: July 30, 2017

# Michael F. Arnall, M.D.

Ed	uca	tion

1977 BA Biology, Cum Laude

University of California, San Diego

1982 M.D.

Washington University School of Medicine, St. Louis, Missouri

1982 to 1986 Internship and Residency in Pathology

University of Colorado Health Sciences Center

1986 to 1987 Fellowship in Forensic Pathology

Denver County Coroner's Office, Denver, Colorado

1988 to 1989 Fellowship in Surgical Pathology

Baylor College School of Medicine, Houston, Texas

Experience

1987 to 1988 Associate Medical Examiner, Commonwealth of Massachusetts, Boston

1989 to 1992 Private Practice of Pathology, Graves Pathology Associates,

Ft. Myers, Florida

1989 to 1992 Associate Medical Examiner, District 21 Florida

1996 Associate Medical Examiner, District 15 Florida

2005 to 2009 Forensic Pathologist for Adams County, Colorado

2005 to 2009 Forensic Pathologist for Larimer County and Weld County, Colorado

2009 to 2010 Forensic Pathologist for the National Forensic Pathology Service,

Auckland, New Zealand

2011 to 2014 Forensic Pathologist for Boulder County, Colorado

2011 to 2016 Forensic Pathologist for Adams and Broomfield Counties, Colorado

August 1992 Private Practice of Anatomic, Clinical and Forensic Pathology

to present Michael F. Arnall, M.D., PC.

Licensure

Colorado #27368

Michael F. Arnall, M.D.

#### **Board Certifications**

Diplomate American Board of Pathology

1988 Anatomic Pathology

1988 Clinical Pathology

1989 Forensic Pathology

## **Medical Staff Appointments**

1989 to 2001 Glades General Hospital

Laboratory Director 1990 to 1996

Belle Glade, Florida

1989 to 2000 Hendry General Hospital

Laboratory Director 1990 to 1996

Clewiston, Florida

1996 to 2004 Lawnwood Regional Medical Center

Laboratory Director 2001 to 2003

Fort Pierce, Florida

### **Professional Societies and Memberships**

College of American Pathologists

American Society of Clinical Pathologists

American Academy of Forensic Sciences

National Association of Medical Examiners

#### Publication

Susan G. Elner, MD; Victor M. Elner, MD, PhD; Michael Arnall, MD; Daniel M. Albert, MD: "Ocular and Associated Systemic Findings in Suspected Child Abuse, A Necropsy Study," Archives of Ophthalmology, Vol. 108, August 1990, pp. 1094-1101.

#### Abstract

Wagner J., Ellerbrock TV, Arnall M, Garrison C, Taylor J, Bush T, Stafirn A, Scoles L, Burch L, Russell T, Horsburgh CR: "Rapid Determination of CD4+ T-Lymphocyte Counts in a Hospital Emergency Department Using the STKS Analyzer," Fourth Conference on Retroviruses and Opportunistic Infections, January 22 - 26, 1997

# Michael Arnall, M.D.Court Cases

(	Colorado v Anthony Robert Trujillo	April, 2005	17005CR00180	Adams County
	Colorado v Omar Marquez Castaneda	May, 2006	17005CR01531	Adams County
(	Colorado v Westley James Ybarra	February, 2006	17005CR03947	Adams County
-	Colorado v Elma Garcia	March, 2006	17005CR02748	Adams County
(	Colorado v Anthony Robert Trujillo	March, 2006	17005CR00180	Adams County
(	Colorado v Troy Mark Brownlow	June, 2006	17005CR01125	Adams County
(	Colorado v Carlos Luis Rosario-Cruz	July, 2006	17005T 12455	Adams County
(	Colorado v Joseph Fortino	July, 2006	17005CR01639	Adams County
(	Colorado v Laura Cervantes	July, 2006	06CR1176	Adams County
(	Colorado v Wendall Maurice Weaver	September, 2006	17005CR02969	Adams County
(	Colorado v Jose Refusio Gonzalez	October, 2006	17005CR01676	Adams County
(	Coloarado in the interest of Brandon Vialpando	October, 2006	06 JV 381	Larimer County
	Colorado v Annette Vialpando	October, 2006	06 JV 381	Larimer County
(	Coloardo v Rodney Ben Moyer-Ramirez	November, 2006	17006CR01092	Adams County
	Colorado v Javier Vigil	December, 2006	05CR2278	Adams County
(	Colorado v Javier Vigil	January, 2007	17005CR02278	Adams County
(	Colorado v Jimmy Anglin	January, 2007	17006CR01527	Adams County
(	Colorado v Christopher Medina	January, 2007	17006CR1904	Adams County
(	Colorado v Randall Ruben Romero	January, 2007	17006CR00321	Adams County
(	Colorado v Mathew Gene Wartena	March, 2007	17006CR03460	Adams County
(	Colorado v Peter Alan Weaver	April, 2007	17006CR02833	Adams County
(	Colorado v Adam James Younger	April, 2007	17006CR00762	Adams County
(	Colorado v Kenneth Martin Gildow	June, 2007	17006T 16083	Adams County
(	Colorado v Gerardo Joel Delacruz	July, 2007	17005CR03098	Adams County
(	Colorado v Jose Refugio Gonzalez	August, 2007	17005CR01676	Adams County
(	Colorado v Corey Wagner	September, 2007	06CR3398	Adams County
(	Colorado v Raymond Elias Chacon	September, 2007	17007CR01263	Adams County
(	Colorado v Bryan T Cimiano	October, 2007	17007CR02785	Adams County
(	Colorado v Nicole Monica Roland	October, 2007	17007CR02781	Adams County
(	Colorado v Demond Gene High	November, 2007	17006CR03542	Adams County
	Colorado v Lee Anthony Madrid	November, 2007	17006CR03394	Adams County
	Colorado v Gordon Kenneth Black	November, 2007	17007CR00660	Adams County
	eonard J. Sack, et. Al. V Oralee Ekberg, D.O. et.al.	December, 2007	06CV1482	Adams County
	Fracey Cordova, et al. V Derek Aragon, et al.	January, 2008	07-cv-008790EWN-CBS	Adams County
(	Colorado v Mathew Gene Wartena	January, 2008	17006CR03460	Adams County

Colorado v Dorey Dean Wagner Colorado v Demond Gene High Colorado v Andrew Coleman Jones Colorado v Alicia Elaine Jones Colorado v Jonathan Rex Willis Colorado v Steve Martinez Colorado v Joshua J Beadle Colorado v Quinten Marwialles Arnwine Colorado v Elaine R Shoemaker Colorado v Elaine R Shoemaker Colorado v Mathew Gene Maestas Colorado v Victor Vargas-Zapata Carmen Duarte and Pedro Zamarron v Univ. Colo. HSC Colorado v Albert Daniel Gallegos Colorado v Jennifer Kaye Freels Leslie Ann Lovato v Michael McMillan, M.D. et al Colorado v Marcos Antonio Ramos Colorado v Victor Manuel Villa-Fierros Colorado v Jose Albierto Sollano-Figueroa Colorado v Bryan David Pike Colorado v Brian Allen Washington Colorado v Jennifer Kaye Freels Colorado v Rodolfo Rauldale-Zuniga Colorado v Laura Carole Childress Colorado v Jose Alberto Sollano-Figueroa Colorado v Jose Alberto Sollano-Figueroa Colorado v Jose Alberto Sollano-Figueroa Colorado v Daven Beck Nebraska v Jeremy Erickson Colorado v Andrew Michael Galek Colorado v Laura Carole Childress Colorado v Nicky Allen Martinez Colorado v Melvyn Wright Saunders Colorado v Micky Allen Martinez	February, 2008 February, 2008 February, 2008 February, 2008 March, 2008 March, 2008 March, 2008 March, 2008 May, 2008 May, 2008 May, 2008 May, 2008 May, 2008 August, 2008 October, 2008 November, 2008 November, 2008 November, 2008 Decemver, 2008 Decemver, 2008 January, 2009 March, 2009 March, 2009 March, 2009 March, 2009 March, 2009 July, 2009 July, 2009 July, 2009 July, 2009 July, 2009 July, 2009 August, 2009	17006CR03398 17006CR03542 06 CR 1901 17007CR01885 17006CR00499 17005CR00335 17007CR01544 D0012007CR 002952 D0012007CR 002151 D0012007CR 002147 17007T16651 06CV13039 D0012006CR003933 D0012007CR003399 07CV790 D0012008CR002235 D0012008CR002235 D0012008CR002235 D0012008CR002235 D0012008CR002235 D0012008CR002235 D0012008CR002235 D0012008CR002235 D0012008CR002255 D0012008CR002255 D0012008CR002857 D0012008CR002857 D0012008CR002306 D0012008CR002306 D0012008CR002306 D0012008CR002255 D0012008CR002255 D0012008CR002063 D0012008CR002225 D0012008CR002225 D0012008CR002255 D0012008CR002063 D0012008CR002225 D0012008CR002225 D0012008CR002307 D0012008CR002307 D0012008CR002007 D0012008CR002063 D0012008CR002007 D0012008CR002063 D0012008CR002063 D0012008CR002063 D0012008CR002063 D0012008CR002063 D0012008CR002063	Adams County
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Colorado v Alexander Paul Pacheco Colorado v Eddie Deshawn Harper Colorado v Justin Michael Taylor	August, 2009 August, 2009 November, 2009	D0802009CR000017 D0012008CR002562 D0012009CR000391	Broomfield County Adams County Adams County
Florida v Gregory R. Junkin Grand Jury	January, 2011 March, 2011	09CF02174	Leon County, Fl.
Colorado v Adam Ari Raszynski	May, 2011	11CR540	Boulder County Boulder County
Grand Jury	June, 2011	7.01.6.10	Boulder County
R v. Wikeeepa	July, 2011		Rotorua, New Zealand
Colorado v Scarlett	July, 2011	D0012011CR000396	Adams County
Harner v Chapman	July, 2011	2009CV900	Boulder County
Colorado v. Ricardo Martinez Gonzalez	September, 2012	D0012011CR003217	Adams County
Colorado v. George Julian Ruibal	November,2012	11CR789	Boulder County
Colorado V. Thomas Michael Ceja	November, 2012	D0012012CR000362	Adams County
Colorado v. Charles Edward Waters	December, 2012	11CR1771	Boulder County
Colorado v. David B. Anver	January, 2013	D0012012CR001902	Adams County
Colorado v. Carlos Lupian Diaz	January, 2013	D0012012CR00523	Adams County
Colorado v Donald Scarlett	February, 2013	D0012011CR000396	Adams County
Colorado v Corey Dean Wagner	May, 2013	D0012006CR003398	Adams County
Colorado v Doris Becky Trujillo	June, 2013	D0012012CR000457	Adams County
Estate of Vera Jiles v Arapahoe House	June, 2013	2012CV301	Adams County
Colorado v Edward Montour	October, 2013	D0182002CR000782	Douglas County
Colorado v. Seth Erin Wilkinson	December, 2013	D0012013CR000248	Adams County
Lopez v. Quintana and Rivera	January, 2014	2013CV30267	Adams County
Colorado v Roberto Carlos Silva-Jaquez	January, 2014	D0012012CR003445	Adams County
Colorado v. Demetrius Santiago Trujillo	January, 2014	D0012012CR002694	Adams County
Colorado V. Anton Jose Valdez	January, 2014	D0012013CR000027	Adams County
Colorado v Hector Guadalupe Alvarez-Martinon	January, 2014	D0012012CR003423	Adams County
Colorado v. Steven Arthur Vesich	February, 2014	D0012013CR002131	Adams County
Colorado v. Richard Joe Minjarez	February, 2014	D0012013CR000620	Adams County
Colorado v. Brent James Noles	February, 2014	D0012013CR000959	Adams County
Grand Jury	February, 2014		Adams County
Colorado v Jennifer Lynne Lewis	February, 2014	D0012013CR000772	Adams County
Colorado v Mario Moses Oliveros	March, 2014	D0012013CR000619	Adams County
Colorado v Alex Hernandez	March, 2014	12CR 3418	Adams County
Colorado v. Anton Jose Valdez	April, 2014	D0012013CR000027	Adams County
Colorado y William Dean Otto	May, 2014	D0012013CR002337	Adams County
Colorado v Alex Hernandez	May, 2014	D0012012CR003418	Adams County